Comment Number	Section	Document page number	Paragraph in page	Author	Comment	Critical vs Accuracy vs Presentation ("C" "A" "P")
1	N/A	N/A	N/A	NJDEP	Groundwater Comments: Four areas of impacted ground water are observed in the shallow water-bearing zone (monitoring wells MW-3, MW-7, MW-19, and the MW-10 and MW-18 area). Constituents observed at monitoring well MW-3 include the VOCs benzene and 1,4-dioxane, and may be related to VOC-impacted soil and drums located at nearby test pit TP-09. MW-7 contains low levels of PCBs. Chlorofluorocarbons (CFCs) are present in ground water at monitoring wells MW-10 and MW-18, and their presence appears to be related to old refrigerators, which are present on the ground nearby. Benzene, at a concentration marginally higher than its GWQS, is present in well MW-19. The remaining data gaps for ground water in the shallow water-bearing zone are related to completing delineation of ground water constituents in two locations (CFCs in the area of wells MW-10 and MW-18, and complete delineation of benzene at well MW-19), and refining the understanding of naturally occurring processes that could reduce constituent concentrations in ground water. These additional data are being obtained in accordance with the USEPA-approved Supplemental Groundwater and Baseline Monitored Natural Attenuation Investigation Work Plan (Geosyntec, 2016b). In regard to the ground water issues discussed in the reviewed documents, the referenced documents are acceptable.	
2	N/A	N/A	N/A	NJDEP	Soil Comments: The three (3) submitted documents are acceptable, with the following comments (reiterated) regarding the Human Health Risk Assessment and NJ statutory acceptable cancer and non-cancer risk levels. The Department, by law, does not accept baseline risk assessments to determine whether remediation is needed on a site. The need for remediation or for addressing the soil and groundwater contamination for the ingestion-dermal pathway is based on complying with the Department's Soil Remediation Standards and other media standards. The investigation's rationale, methodology and reports must conform to the Technical Requirements (NJAC 7:26E). This HHRA was reviewed, in accordance with standard EPA guidance, including EPA's Risk Assessment Guidance for Superfund, Vol. I, 1989 (RAGS, but the Department does not require such an assessment. In terms of accepting the HHRA, the Department defers to EPA. While the actual risk assessment acceptability is deferred to EPA, remediation for this site must comply with Department policy and New Jersey statutes such that all contaminants present in concentrations above one in a million cancer risk and above a HQ of 1 are addressed either by remediation or institutional/engineering controls. Further, the contaminant concentrations on site must also address the Impact to Ground Water pathway. It should be noted that alternative site specific standards utilizing values and conditions specific to the site may be developed. Guidance on this can be found on the Site Remediation Program (SRP) guidance website.	
3	N/A	N/A	N/A	R. Griffiths	If the results of the September 2016 porewater delineation are available in time for this revised draft, I think they should be included.	
4	N/A	N/A	N/A	R. Griffiths	The site is zoned for residential use, thus comparisons to Non-Residential criteria are insufficient. Please revise these occurrences throughout the report (particularly Section 4) and on the figures that only show exceedances of Non-Residential Direct Contact Soil Remediation Standards. Impact to Groundwater Soil Screening Levels should also be included as a screening reference for soil samples.	
5	N/A	N/A	N/A	R. Griffiths	EPA has previously requested that 1,4-dioxane be evaluated and reported as an SVOC, but the report refers to the VOC concentrations. The SVOC method for evaluating 1,4-dioxane has proved more reliable and has significantly lower method detection limits than the VOC method. The SVOC results are incorrectly reported as TICs and need to be incorporated into the results summary and delineation. Occurrences of 1,4-dioxane exceeding the Interim Groundwater Standards reported as TICs include (during various sampling dates) MW-1, MW-3, MW-6, MW-7, MW-14, MW-15, MW-16, MW-20, X-1, GW-TWP-7, and GW-TWP-9.	
6	N/A	N/A	N/A	R. Griffiths	While it is appropriate to detail the phases of the investigation in Section 2 to lay the groundwork for the report, this format becomes confusing in later sections. Ultimately, it doesn't matter if the data collected was in the first of second phase of investigations, and this layout/presentation should be reconsidered.	
7	N/A	N/A	N/A	R. Griffiths	Some editorial/minor typos were noted on a redline version of the report.	
8	N/A	N/A	N/A	R. Griffiths	The term COCs is used throughout the report – isn't this something that's defined in the ROD so we don't technically have COCs yet?	
9	N/A	N/A	N/A	USFWS	Statements comparing upstream concentrations in brooks to onsite ponds are misleading and should be deleted from the report. Besides being two completely different types of systems, upstream brook locations would be subjected to many different point and nonpoint sources of contamination than onsite ponds. Nor is there any hydrological connection between the ponds and brooks.	
10	N/A	N/A	N/A	USFWS	It would be helpful to aide in the interpretation of the data in regards to nature and extent if sample locations presented in Appendix C were identified. It's understood that labeling might make the figures "busy"; however, it would make it easier to cross reference the sample locations with the data in Appendix B.	
11	N/A	N/A	N/A	S. Ferreira	According to this document, the project area had been surveyed for this presence of the federally-listed (threatened) bog turtle (Clemmys muhlenbergii) in 2008. No bog turtles were identified during this survey. However, while much of the site is comprised of heavily disturbed landfill areas, bog turtle habitat was found to be present both onsite and offsite along the periphery of the landfill. Accordingly, during remedial investigation activities, best management practices were agreed to with the USFWS, and utilized to avoid impacts to this species. The RI also noted the presence of the Indiana bat within the project area. Further, in addition to the bog turtle and Indiana Bat, the USFWS' online iPaC system indicated that the northern-long eared bat is also known from the project area. Consequently, impacts to these species and their habitat from any remedial alternatives under consideration should be assessed during the FS: continued consultation with the USFWS will likely be required.	
12	N/A	N/A	N/A	S. Ferreira	We had previously determined that the Wilderness Act may be an ARAR for the project, as the eastern half of the GSNWR was designated as a wilderness area by Congress in 1968. Certain activities are prohibited in wilderness areas, such as permanent or temporary roads, structures or installations, and commercial enterprises except as necessary to properly administer the area and protect public health and safety. The use of motorized vehicles or motorized equipment is also prohibited except as necessary to meet minimum requirements for the administration of the area (including measures required in emergencies involving the health or safety of persons within the area). The potential for any future remedial alternative to impact the federally-designated wilderness area portion of the GSNWR should be assessed during the FS.	
13	N/A	N/A	N/A	S. Ferreira	There are no wild and scenic rivers, coastal resources, coastal barriers, or significant agricultural lands in the vicinity of the site. The site does not lie within the designated coastal zone of the State of New Jersey. Therefore, the Wild and Scenic Rivers Act, the Coastal Barrier Resource Act, and the Farmland Protection Policy Act, and the Coastal Zone Management Act are not ARARs for this project. Thank you for this opportunity to comment. I look forward to working with you as this project progresses, to ensure that all environmental resource issues are adequately addressed. If you have any questions concerning these comments, please feel free to contact me at x-3759.	
14	N/A	N/A	N/A	S. Ferreira	We note that a previous document concerning the installation of monitoring wells at this site stated that no properties on the New Jersey or National Register of Historic Places were found in the vicinity of the proposed activities. As the scope of potential ground disturbance associated with that action were quite limited, we concurred that adverse effects to cultural resources as a result of its implementation was not likely. Please note, however, that in general the lack of known sites is not enough to preclude potential adverse effects to cultural resources protected under the tenets of the National Historic Preservation Act (NHPA). While much of the project area has been disturbed by landfilling activities at the site dating back into the 1930s, we do recommend that if and once a ground disturbing remedy is likely, a Stage IA Cultural Resource Survey should be completed, to determine if effects to historic resources are possible, and to ensure compliance with the NHPA.	

15	N/A	N/A	N/A	S. Ferreira	According to available GIS layers, much of the site is located within the 100-year floodplain as determined by the Federal Emergency Management Agency. Accordingly, we recommend that future documents include a delineation of the 100-year and 500-year floodplain. If any future remedial activities are proposed within either floodplain, a floodplain assessment will be needed. Please note that this assessment should include: ● a description of the proposed action; ● the effects of the proposed action on the floodplain; ● a discussion of the impacts of the proposed action as compared to the other options; and ● measures to mitigate potential harm to the floodplain if there is no practicable alternative to locating in or affecting the floodplain, including measures to mitigate any potential impacts to the proposed remedial action from flooding events both during and after implementation of the proposed remedy. This assessment will be needed to protect the remedy against the adverse effects of the 100-year and 500-year flood, including the spreading of contaminants and the long-term disabling of any needed remedial treatment systems.	
16	N/A	N/A	N/A	S. Ferreira	This report notes that 202 acres of wetlands exist in the survey area, including 30.6 acres within the landfill. In addition, the site is partially included within the Great Swamp National Wildlife Refuge, and a review of National Wetlands Inventory GIS mapping indicates it is nearly completely surrounded by wetlands. Please note that if wetlands are proposed to be impacted by future remedial activities, in addition to the completed delineation, a wetlands assessment will be needed. This assessment should include: ● an assessment of wetlands values and functions; ● a characterization of flora and fauna; ● a brief discussion of the impacts of any preferred remedial alternative as compared to the other options; ● the effects of contaminants on wetlands resources; ● measures to minimize potential adverse impacts that cannot be avoided; ● replacement for wetlands losses (mitigation); and ● a post-mitigation monitoring plan, if needed	
17	N/A	N/A	N/A	CDM Smith	Section 6 - The fate and transport work might be better presented prior to the site conceptual model, and probably merits its own section earlier in the report.	p
18	N/A	N/A	N/A	CDM Smith	Section 7 - The surface soil delineation is difficult to follow. There are several contaminants that exceed ARARs at the perimeter of sample locations especially PCBs and benzo(a)pyrene. There is discussion about these being background conditions; it might be good to set a background range for these and show a figure that just shows what exceeds background. There is an instance of vanadium exceeding ARAR at the perimeter. The same is true for sediments (especially metals, PCB, pesticides and some SVOC), to a lesser extent surface water and groundwater (mainly metals for groundwater). In general the report seems heavier on characterization with delineation not as well presented or more difficult to understand due to the volume of data and the reliance on local background while background levels are not directly accounted for in the box maps.	P
19	N/A	N/A	N/A	CDM Smith	There appears to be several table, figure and appendix references that are possible remnants from a previous version. There are also reference to the SCSR that appear as though they should be addressing the RIR. Please review the document and make sure that all references are appropriate and correct for this report.	A
20	N/A	N/A	N/A	CDM Smith	The report organization is hard to follow in some respects. For example, Appendix I seems to include only Phase 1 investigation results. It is recommended to include both phases.	C
21	N/A	N/A	N/A	CDM Smith	It is recommended that a section be added to discuss the screening criteria selected to evaluate environmental data for the RIR. The discussion should include explanations of the criteria for various environmental media (e.g. soil remediation standards - inhalation/direct contact vs. impact to groundwater, groundwater quality standards based the appropriate aquifer classification for the site, soil vapor screening levels for vapor intrusion criteria).	P
22	N/A	N/A	N/A	CDM Smith	It would be good to have a table added that indicates which surface water and sediment samples were upstream brook samples, downstream brook samples, pond samples. What samples, if any, are in neither category – such as samples collected in the wetlands. The brooks should be better labeled on the maps, especially Black Brook.	P
23	N/A	N/A	N/A	CDM Smith	Use of term ubiquitous when describing presence of metals in soil is too general. Does this mean that a group of metals were found in all samples or that some metal was detected in every sample? The description of which metals were detected should be more specific.	A
24	N/A	N/A	N/A	CDM Smith	It is very difficult to follow exceedances using report figures in Section 4 (box maps of all exceedances). Additional figures similar to those in Appendix C (representation of what is below RDC, above RDC and above NRDC in surface soil and sediment; one contaminant per map) would be helpful in evaluating the site contamination.	P
25	N/A	N/A	N/A	CDM Smith	No deeper groundwater samples were collected for vertical delineation of groundwater, there appears to be a reliance on the thick clay layer preventing downward migration. If this is the case, this should be explicitly stated in the report.	A
26	Figures	N/A	N/A	R. Griffiths	Figure 4-1's: Please include background soil locations and results on one of these figures. Figure 4-2: Please update to include the 1,4-dioxane results as an SVOC as reported in the TICs. Figure 4-3: It may be helpful to indicate a flow direction for the Black Creek and Loantaka Brook, or include the table from the report text categorizing each location as upgradient or downgradient. Figure 4-4's: Aroclor is misspelled in the legends.	
27	Appendix B	N/A	N/A	R. Griffiths	Appendix B Table B-3G: Please update to include Impact to Groundwater screening levels. Appendix B Table B-4B: 1,4-dioxane should not be reported as a TIC. Additionally, please include a row of "Total TICs" and compare to the NJDEP Interim Groundwater Quality Standards Appendix Table 2 for Synthetic Organic Chemicals (http://www.state.nj.us/dep/wms/bears/Appendix_Table_2.htm). Appendix B Table B-4C: NJGWQC in this table should be updated to include interim GWQC to match the GWQC presented on the rest of the tables and figures.	
28	N/A	N/A	N/A	CDM Smith	Executive Summary: There does not appear to be a summary of the fate and transport of constituents of concern, the conceptual site model in the executive summary. It is recommended that the executive summary include a discussion of each of the bullets noted in Section 1.3 Contents of the RIR.	A
29	ES	xix	1	EPA	Also, are the inorganic concentrations found consistent with site-specific background?	
30	ES	xix	1	EPA	Revise this to include a statistical evaluation of onsite results and background levels.	
31	ES	xix	1	EPA	Revise this to read, "Although the shallow aquifer is identified by NJDEP as a Class 2A potable aquifer, it is not currenly used for as a drinking water."	
32	ES	xv	3	EPA	Not a big deal, but I don't know if I'd characterize 18 feet as relatively thin	
33	ES	xv	3	EPA	This figure and the next do not invlude the ball field and shooting range in the delineation of the site. Is this appropriate?	
34	ES	xv	4	EPA	Consider including the acreage owned by the GSNWR and the Green Village Fire Department (out of the approximately 170 acres total).	
35	ES	xvi	1	EPA	The location of Black Brook is not labeled on any of the Section 1 figures. I think it should be indicated in some way.	
36	ES	xvi	1	EPA	Not to be too picky, but don't all water bodies receive hydrologic input from direct precipitation? Also, the ponds appear to at least be partially located on the landfill, not just north of it.	
37	ES	xvi	1	CDM Smith	Please explain why there is only a hydraulic connection between the large pond and groundwater.	A
38	ES	xvii	2	CDM Smith	This states that the selected ARARs may change during remedy selection process. This should be discussed further.	C
39	ES	xviii	1	EPA	How was this determined? Make the main body of the report explains.	
40	ES	xviii	1	EPA	Include a discussion of constituents which pose risk due to potential migration to groundwater	
41	ES	xviii	2	EPA	Some discussion of the direction of GW flow should be added. For example, under the third point, what are the downgradient wells from MW-7?	

42	ES	xviii	2	EPA	Does EPA agree that the clay layer is continuous across the site?	
43	ES	xx	1	EPA	Revise to read, "Although the site is zoned residential and EPA is aware of no formal plans to change the zoning or restrict future land use,..."	
44	ES	xx	2	EPA	Add "likely" here.	
45	ES	xxi	1	EPA	Revise to read, "Consistent with national guidance on conducting a risk assessment that protects for the reasonable maximum exposed (RME) individual in a population, parameters were selected that are not likely to underestimate risk."	
46	ES	xxi	2	EPA	Revise this to include any risks above acceptable levels, as well as any risks associated with site-related contaminants.	
47	ES	xxi	2	EPA	I don't believe the specific ARARs used for this comparison have been defined yet. What are the relevant ARARs for soil, surface water and sediment?	
48	ES	xxi	2	EPA	What does "significantly" mean? Since unacceptable risks have been identified, ARARs have been triggered. Please clarify this to identify the extent of soils that exceed ARARs.	
49	ES	xxi	2	EPA	Provide a more detailed description of the PAHs, pesticides and inorganics so that a clear understanding of what is found upgradient and/or downgradient is presented.	
50	ES	xxi	2	CDM Smith	This states all the elements of the RI and risk assessments are complete, but previously it was stated that some contamination is still being investigated (delineated). That is inconsistent; the statement that RI is complete should be deleted or revised. It should also be stated (where appropriate) that ongoing evaluation will be presented in the final RI report.	A
51	ES	xxii	1	EPA	Provide a more detailed description of the constituents so that a clear understanding of what is found upgradient and/or downgradient is presented.	
52	ES	xxii	1	EPA	This reads, "There is no unacceptable ecological risk, except there is." Please revise this to more accurately present the conclusions of the BERA.	
53	1.2.1	1	3	R. Griffiths	The statement, “its rural character could be impacted if development occurs,” is not necessary and should be removed.	
54	1.2.1	1	4	EPA	Should we verify this statement?	
55	1.2.1	2	1	CDM Smith	This should mention several smaller ponds are present on the landfill, in addition to the larger ones cited.	A
56	1.2.1	2	3	CDM Smith	Besides the two landscaping firms that lease property, there are empty dumpsters on the property, which appear to be owned by another business entity.	A
57	1.2.2	2	4	EPA	Figure 1-3 shows a tiny portion owned by David M. Bakunas, trustee. This should be mentioned/explained.	
58	1.2.2	2	5	CDM Smith	Site Ownership includes current ownership; it is typical to include the past ownership history.	P
59	1.2.3	3	2	USFWS	The text states that USFWS purchased 310 acres of land for landfilling purposes. Is this statement accurate and can it be confirmed? The fact that a federal land management agency purchased that many acres to turn into a landfill seems unusual.	
60	1.2.4	3	4	CDM Smith	Please be specific with respect to the parameter lists discussed in this section (i.e. Priority Pollutant, Target Compound List, RCRA). Although there is overlap, list each as each includes a different set of parameters.	A
61	1.2.4	3	4	CDM Smith	Why does the RI exclude FIT data? In general there are other data collection events discussed in this section that are not included in the RI.	P
62	1.3	4	7	EPA	Stating the obvious (I know), but someone should make sure all the comments were addressed appropriately and all new information incorporated.	
63	2.2	7	6	CDM Smith	Ten of the POIs had drums or drum remnants, not just three. Add a statement why test pits/sampling were not conducted at all drum areas.	A
64	2.2.1	8	3	J. Cantilli	The wetland delineation was done in 2006. Both the US Army Corps of Engineers and NJDEP typically apply a five-year lifespan to delineations, so site wetland boundaries may have to be re-checked.	
65	2.2.1	9	4	J. Cantilli	In what year(s) were the NJDEP permit equivalents approved ?	
66	2.2.1	9	6	R. Griffiths	The suspected origin of monitoring wells X-1 through X-7 should be discussed in this section, as their installation predates the formal RI activities (according to Table 2-2, they were either installed in the 1990s prior to the major RI phases, or unknown).	
67	2.2.2	11	2	R. Griffiths	Where is the drum staging area located? Perhaps add to Figure 1-2.	
68	2.2.2	12	3	CDM Smith	Explain why a 1-ft deep test pit was enough to delineate edge of landfilled materials.	A
69	2.2.2	12	3	CDM Smith	State why no soil samples were collected during POI-1 investigation.	A
70	2.2.3	14	2	R. Griffiths	The report cites that 4-foot long steel macro-core samplers and acetate liners were used during direct-push activities, but the logs in Attachment D refer to 5-foot intervals. The typical length is 5 feet, but please double check and amend as needed.	
71	2.2.2	14	3	CDM Smith	Where are results of post-ex sample from POI-17/18?	A
72	2.2.4	16	3	CDM Smith	Explain why sampling frequency was less in the regulated areas. Explain why no subsurface samples were collected in the regulated area.	A
73	2.2.4	16	4	CDM Smith	Please review and clarify why no discussion of surface samples at POI-14, which had car battery casings? According to Figure 2-4 there was a sample collected here.	A
74	2.2.4	16	5	CDM Smith	This is the first mention of Weston. The results of samples collected by Weston do not appear to be included in RI. Was Weston the Site Assessment Team mentioned earlier? What was special about TP-09 that the soil samples were collected there? There was potential industrial waste observed there, but that was also true at TP-20-1 and TP-34.	P
75	2.2.5	18	4	CDM Smith	Add greater detail about how wells were developed	A
76	2.2.5	19	3	CDM Smith	The sentence about purge rates is confusing, please revise and clarify this discussion.	A
77	2.2.5	19	3	R. Griffiths	Typo	
78	2.3	25	1	CDM Smith	The fourth bullet at top of page refers to HC-1 as a monitoring well. HC-1 is not a monitoring well. This is the Hunt Club well that was hooked up to a spigot and was previously used for water supply.	A
79	2.3.1	25	7	CDM Smith	The first paragraph indicates that soil sampling was performed to delineate constituents present at concentrations above the SRS. Please add a discussion that the SRS are based on direct contact/inhalation pathways. Were impact to groundwater SRS generated and considered in developing the screening criteria for evaluating environmental contamination in the RIR?	A
80	2.3.1	26	1	CDM Smith	These cite soil samples SS-125 through SS-158, SS-165 through SS-183 and SS-187 through SS-191. Several were considered sediment, it would be helpful to note that here, since they are missing from the soil tables.	A
81	2.3.1	26	4	CDM Smith	Note that the soil samples collected in association with the temp wells were collected 11 months after the temp wells were installed and sampled. The text should be revised to state this.	A
82	2.3.2	27	2	CDM Smith	Some samples in the range SD-45 through SD-69 were considered soil; please cite as these samples are not on the sediment tables.	A
83	2.3.2	27	3	CDM Smith	This paragraph states that “composite” sample was collected; homogenized would be a more accurate term. Please revise the text accordingly.	A
84	2.3.4	28	6	R. Griffiths	Please advise if the nine temporary monitoring wells have been abandoned/removed.	
85	2.3.5	29	1	CDM Smith	Note that pore water samples were collected in place of MW-13 which could not be installed. Also, the porewater samples were inside the site boundary; proposed well was to be outside the site boundary. Please clarify this in the text.	A
86	2.3.6	30	4	CDM Smith	Specify parameters for filtered samples	A
87	2.3.7	31	1	CDM Smith	PW-1 was inside landfill boundary. Sampling procedure was to purge with peristaltic pump and sample with bailer. Please revise the text to include this information.	A
88	3.1	32	1	CDM Smith	This references Section 2.4.2; there is no such section, it appears as though it should be 2.2.4, please confirm and revise the text.	A
89	3.1	32	2	CDM Smith	The text states that total excavation depths ranged from 1 to 18 feet. Does this refer to the depth of the excavations during the test pit investigation or depth of fill material encountered in the test pits. Please clarify in the text.	A
90	3.1	32	3	CDM Smith	Several perimeter test pits had trash, several only went 1 ft. TP-10 was perimeter and clean, but only went 1 ft. Some edge areas lack a test pit. This may not be sufficient to delineate edges for the purposes of the feasibility study or later design efforts. Please revise the text to provide this consideration.	A

91	3.1	33	1	CDM Smith	The west facing transect discussion for TP-10 is unclear. Please review and clarify the text.	A
92	3.1	33	1	CDM Smith	Reference to Section 2.2.1.3 is incorrect. Seems to refer to 2.2.2, but this section does not include discussions of TP-10, as suggested here.	A
93	3.1	34	1	EPA	Probably not a big deal, and if this has been previously approved, then fine, but this strikes me as a big leap. The landfill is huge, and there are probably non-landfilled spots all over the place. This section wasn't particularly well delineated and I'm not sure what is gained by removing it from the landfill boundary.	
94	3.1	34	2	CDM Smith	References to 2.4.2 – should be 2.2.4.	A
95	3.2	36	3	R. Griffiths	Consider adding the slight topography that the fire road adds to the landfill since it is typically elevated compared to the surrounding landfilled areas.	
96	3.3	37	4	CDM Smith	Recommend that the discussion of the glacial sediments above the glacial lake clay unit be discussed in more detail as this is the key water-bearing unit that affects the migration of groundwater impacted by the Site. In particular, the characteristics of the sand units (e.g. thickness, aerial extent, continuity of beds) are important to a discussion of the transport of contaminants and development of the conceptual site model.	A
97	3.4.1	38	4	EPA	Include a discussion of the NJDEP classification of the aquifer that requires it be protected as a Class 2A potable aquifer.	
98	3.4.2.1	39	1	R. Griffiths	This section notes that completed monitoring well depths in the shallow subsurface aquifer range in depth from 9.0-14.5 feet. Based on Table 2-2, it should be clarified that those numbers represent the well screen depth (not completion depth) for MW-1 through MW-20. If wells X-1 through X-7 are meant to be included in this summary, the numbers should be adjusted altogether.	
99	3.4.2.1	39	2	CDM Smith	As with the discussion of local geology, the discussion of local hydrostratigraphic units should discuss details of the water-bearing units (silt, sand and clay). What is the saturated thickness, how do they relate to hydraulic conductivity estimates in support of future flux calculations. It is also recommended that the cross sections be extended to include the streams that are concluded to be local discharge points, and that consistent scales be used for all of the cross sections so that they are more easily compared.	A
100	3.4.2.2	40	2	CDM Smith	The next to last sentence states that “Depths to water below groundwater surface in the wells..”. Should this say “Depths to water below ground surface in the wells”?	A
101	3.4.2.2	41	2	R. Griffiths	Please include a brief description of surface water depths, or include in Section 3.5.1	
102	3.4.2.3	42	1	CDM Smith	Please present the equation (if hydraulic conductivity was calculated) or the graphs used (if graphical method was used) along with a discussion of how the method was used: the assumptions (e.g. saturated/aquifer thickness), conversion factors (e.g. gpd/ft to ft2/day) and limitations of the method used. Table 1 from Attachment G appears to be an important summary of many of these factors. Perhaps it would help to make the table part of the RIR tables included in the body of the report as it would help the reader understand which wells were used and what the range in conductivity is for each well.	A
103	3.4.2.3	42	2	CDM Smith	The “Darcy groundwater velocity” is not the same as average linear velocity. It is actually a flux that does not include porosity in its calculation. Recommend changing the term used in this sentence.	A
104	3.4.2.4	43	2	CDM Smith	Based on the range in clay thickness from literature and the observed well depth, would Geosyntec conclude that the well is completed in fractured rock? Water supply wells completed in rock typically have open hole construction, which is consistent with the video survey.	A
105	3.4.2.4	43	2	CDM Smith	HC-1 appears to be a bedrock open hole well based upon the video inspection. Please confirm and revise the text accordingly.	A
106	3.6.3	50	2	J. Cantilli	The term “Other” in the wetland table (below) might be clarified to say “Phragmites on landfill”. If the three ponds (total 8.3 acres) are shallower than 2 meters, they would be considered “palustrine open water” wetlands and may be added to the wetland table.	
107	3.7.1	53	3	EPA	The table below identifies this as "formerly listed", but this language suggests that the bog turtle is currently listed. Please revise to clearly identify the status.	
108	4.1.1	57	1	CDM Smith	Dozens of old telephone hand sets are present in one area of the landfill, possible industrial waste (west of MW-7 or MW-6).	A
109	4.1	57	5	USFWS	There seems to be an overemphasis on other sources of chemicals detected at the landfill rather than those linked to the actual material that was disposed of.	
110	4.1.2	58	2	USFWS	The text states that the landfill has been subjected to unauthorized waste disposal. Has this been documented and confirmed? Please site an example(s).	
111	4.1.2	58	2	CDM Smith	what is the evidence/documentation of skeet shooting over the ponds as opposed to the shooting range?	A
112	4.2.1	59	6	CDM Smith	The discussion of whether wastes at test pit locations TP-09, TP-20-1 and TP-34 is inconsistent. Samples were collected due to possible industrial waste. For TP-9 the discussion focuses heavily on mephenesin, detected as a TIC, and that it was used in a wide variety of commercial products so that its presence is not indicative of industrial waste. At the end of this section (and on page 57, 41.1.), TP-09 is considered possible industrial waste, due to high levels of PCB, BTEX, TCE and DCE, and visual observations. Please review to make the sections more consistent and specify which field observations suggest industrial waste (i.e. sheen for example).	A
113	4.2.1	60	2	CDM Smith	Discuss how the TIC mephenesin was delineated. In general, report leaves discussions of TICs unresolved. Their presence is stated with no follow up conclusion.	A
114	4.2.2	62	1	CDM Smith	Discuss why no soil samples were collected near POI-1. Post excavation soil samples were collected at POI-17 and POI-18; where are the results provided?	A
115	4.2.2	62	3	EPA	The information in these bullets should be more exact. Identify the number of drum samples that were analyzed and in which PCBs were detected; identify the number of samples in which pesticides were detected; and the last bullet should be revised to contain significantly more information - why is antimony in one sample the only inorganic that is discussed?	
116	4.3	63	2	CDM Smith	State why was it necessary to reanalyze metals in soil.	A
117	4.3	63	3	CDM Smith	Where text reads “A comparison to Residential and Non-Residential SRSs is presented in Appendices A-3A and A-3B.”, that should be Appendices B-3A and B-3B. Please review and revise the text.	A
118	4.3	63	3	R. Griffiths	Regardless of the anticipated future use of the site, it is zoned for residential use and needs to be evaluated as such.	
119	4.3.1.1	64	2	EPA	Earlier in the RI, it said that three of the locations were not sampled for soil. Please verify.	
120	4.3.1.1	64	2	CDM Smith	PCB congeners, dioxin, furans were not included in Appendix J for reference areas. Please review and revise the text accordingly.	A
121	4.3.1.1	64	3	EPA	Revise this to read, "...are less than or within the acceptable risk range for residential soil (4.6E-06 ng/kg - 4.6E-04 ng/kg)...."	
122	4.3.1.2	65	1	EPA	Revise this to read, "...are less than or within the acceptable risk range for residential soil (4.6E-06 ng/kg - 4.6E-04 ng/kg)..."	
123	4.3.1.3	65	3	EPA	Betsy: Has this - and other statistical evaluations - been reviewed by a statistician or by ORD?	
124	4.3.2	65	4	R. Griffiths	Please include a list/range of soil samples associated with each area (i.e. “…surface soil samples collected in 2007 from 10 locations, SS-1 through SS-10, at the baseball field..”) where it makes sense to do so.	
125	4.3.2.2	66	5	CDM Smith	This section discusses the results of soil sampling at an onsite shooting range north of the landfill. Samples from this area were not elevated in lead. Later it is speculated that an offsite shooting range could have contributed lead to offsite soils west of the landfill. The report should be clear as to which shooting range is being discussed and why it is concluded that one may have contributed lead to soil when another does not appear to have.	A
126	4.3.2.3	67	2	CDM Smith	The statement is made that certain VOCs were detected in low concentrations at isolated samples and were limited to BTEX compounds. Ethylbenzene and xylene were the only BTEX compounds; EB was found in 3 of 10 samples, xylene in 4 of 10 samples. Those do not seem “isolated”. It is acknowledged there were no exceedances.	A
127	4.3.2.3	67	6	CDM Smith	Include 4,4-DDE and heptachlor epoxide among list of most commonly detected pesticides; only gamma chlordane and alpha chlordane was detected in all 10 samples – text suggests otherwise. Please review and revise accordingly.	A
128	4.3.2.3	68	2	CDM Smith	TEQ for dioxin does not match that listed in Attachment J.	A
129	4.3.2.5	69	1	CDM Smith	References Attachment I (presumably Table 25) – Attachment I only includes Stage 1 and Stage 2 samples (through 2010). Attachment J references a total of 123 sample locations for landfill, Landscape Area 1 and Landscape Area 2/Hunt Club. This page of the RI references 122 locations. Largest N on Attachment 1 (table 25) is 121. Tables 23 and 24 summarize samples from the Landscape Areas/Hunt Club separately – are they excluded from Table 25? Number of locations, and what is included in each table/discussion is confusing. Please review and revise for clarity.	A
130	4.3.2.5	69	1	R. Griffiths	“The baseball field and shooting range were excluded from this data summary because they are located outside the landfill boundary.” Please rephrase this statement to reflect that the field and range are outside of historically landfilled areas, because current phrasing makes it seem like they are being excluded from the Site definition.	

131	4.3.2.5	69	4	CDM Smith	This section discusses the presence and frequency of contaminants detected in surface soil samples at the Landfill, but does not discuss distribution. Were the contaminants randomly distributed or concentrated in certain areas of the Landfill? Please discuss the distribution in all sections presenting the results of soil sampling and analysis. References to figure(s) are not sufficient to express the conclusions of the investigators.	C
132	4.3.3	72	5	R. Griffiths	It is not necessary to include the chemical names and historic uses of chlordane, dieldrin, alpha-BHC, and 4,4'-DDD.	
133	4.3.3	73	1	CDM Smith	Please consider whether a statement can be made on likelihood of point source for inorganics and PCBs, similar to what was said about other contaminants, and revise the text accordingly.	A
134	4.4	75	2	CDM Smith	Appendix reference should be B-3A and B-3B, which covers TCL/TAL and congeners.	A
135	4.5	76	table	CDM Smith	There are other exceedances; it is recommended to add a comprehensive table.	P
136	4.5.2	78	1	CDM Smith	States that sample depths ranged from 9 to 19 feet bgs; a sample was collected 24.5-25' deep at SS-177. Please review and revise accordingly.	A
137	4.5.1.5	78	2	USFWS	Please note the typographical error	
138	4.5.1.5	78	3	R. Griffiths	Typo	
139	4.5.2	78	4	R. Griffiths	add "below"	
140	4.5.3	78	6	CDM Smith	Appendix table B-3B does not show the non-cancer USEPA RSL and does not distinguish which samples exceeded the non-cancer risk from which only exceed the cancer risk RSL.	A
141	4.5.3	79	1	CDM Smith	SS-183 value is 6.766, more than marginally above the cancer RSL of 4.8 ng/kg. Please revise text to remove the statement "only marginally".	A
142	4.6	79	2	R. Griffiths	Please add that the groundwater beneath the site is classified as a Class IIA aquifer "..results are compared to GWQS for Class IIA aquifers.."	
143	4.6	79	3	CDM Smith	The second paragraph indicates that the July 22, 2010 version of NJDEP GWQS were used. Please indicate if these are the values in effect when the RIR is released. For example, it appears that the interim criteria for 1,4-dioxane is not the most current value.	A
144	4.6.1	79	4	R. Griffiths	At this point in the report, separating result by phase becomes confusing and unnecessary. For example, results for MW-3 are presented in 4.6.2.2 paragraph 2 and again several pages later in 4.6.1.2. A more holistic approach usually includes organizing the section by contaminant type, contaminant and location of detections (i.e. Subsections: VOCs, SVOCs, PCBs, Pesticides, Inorganics, and TICs). This format is already loosely used in the report. The discussion of temporal trends can be incorporated later in the report, such as Section 4.6.3 Summary of Groundwater Sample Results, or Section 6 Conceptual Site Model (some trends are already discussed here), or even in a new section.	
145	4.6.1.1	79	6	CDM Smith	Change interim specific GWQS of 1,4-dioxane to 0.4 ppb.	A
146	4.6.1.1	80	1	CDM Smith	Remove SVOC/pesticide discussion – this paragraph and the next are about VOC.	A
147	4.6.1.1	80	5	CDM Smith	The last paragraph cites published data for metals in groundwater to state that metals in groundwater at the Site warrant no further inquiry because site concentrations are similar to background. Text specifically cites aluminum, arsenic, iron and manganese but no published reference is provided for aluminum. Maximum iron and manganese concentrations at the site (Appendix I) are much higher than the cited background ranges. These factors as presented do not seem to support that no further inquiry into metals in groundwater is necessary.	C
148	4.6.1.1	81	2	CDM Smith	These paragraphs discuss TICs in groundwater; no discussion of estimated concentrations, whether they exceeded generic groundwater criteria (carcinogenic/noncarcinogenic) or why further study is or isn't warranted. This discussion should be added to the report.	C
149	4.6.1.1	81	3	R. Griffiths	It is not necessary to include the use history of glutethimide (pg 81).	
150	4.6.1.2	81	6	CDM Smith	Figure 2-6 should shows locations of all temporary and permanent wells; should probably also show pore water location PW-01 rather than solely discussing it in the text.	A
151	4.6.1.2	82	1	R. Griffiths	Contaminants that exceeded GWQS for VOCs, pesticides, PCBs, and inorganics are presented in paragraphs, but the SVOC exceedances are bulleted. Either presentation is fine, but preferably not both.	
152	4.6.1.2	82	4	CDM Smith	This states that benzene concentrations at MW-10 and MW-19 are marginally above the standard. Standard is 1 ppb. Concentrations are 2 to 3.2 ppb – state the concentrations and remove the qualifying word "marginal".	A
153	4.6.2.2	83	2	CDM Smith	third, fourth, fifth, sixth, seventh bullets - Table 4B-A does not highlight these SVOC exceedances; for TWP-6 benz(a)pyrene equals, does not exceed standard.	A
154	4.6.1.2	84	1	CDM Smith	In some cases filtered metals concentrations are similar to unfiltered concentrations. Arsenic, iron, manganese and sodium in MW-3 for example. Not all cases of metals exceedances seems to be related to colloids – especially iron and manganese. List of metals exceedances leaves out some that exceed in temporary well points, e.g. chromium, cobalt, copper (and cyanide). The idea that metals concentrations are due to colloids is not necessarily supported, this paragraph should be revised accordingly.	A
155	4.6.1.2	84	2	CDM Smith	States that X-3 data, in the wetlands, indicates that iron in groundwater is less soluble in the wetlands, as the report discusses. It is the only location where a well is that far into the wetlands. Rather than "indicates", state that this "suggests" since this idea cannot be tested elsewhere.	A
156	4.6.1.2	84	3	CDM Smith	This discusses regionally high concentrations of metals due to rock type – see specific comment above.	A
157	4.6.1.2	84	4	CDM Smith	This discusses TICs in groundwater, stating that their presence is not confirmed because they were detected in only one of two sampling events in 2015 and concentrations were low. However they were detected in the previous phase. In addition, TIC concentrations are estimated, results from a calibrated analysis could be very different than TIC concentrations. TICs should be evaluated further to see if they warrant calibrated analysis. This also applies to TIC mephenesin, found GW-TWP-8, and in a waste sample from TP-09.	A
158	4.6.3	85	3	R. Griffiths	This section considers four overall areas of groundwater impact (southwestern benzene and 1,4-dioxane at MW-3; northwestern Freon compounds at MW-10, 18, and some TWP locations; PCBs at MW-7; and benzene at MW-19). The following additional areas also show localized groundwater impact and should be added to the list: GW-TWP-1 through GW-TWP-4 in the northwest: In addition to CFCs at TWP-1 and 2, TWP-2 through 4 have various pesticides, TWP-1, 3, and 4 have PAHs, TWP-3 and 4 have PCBs. MW-6 and 7 have 1,4-dioxane (reported as an SVOC TIC) at both locations in 2015 in addition to prior detections as an SVOC at both in 2008. The samples between 2008 and 2015 for VOCs reported high detection limits of 100ppb.	
159	4.6.3	85	4	EPA	Include a discussion of the 1,4-dioxane, similar to what's presented for benzene.	
160	4.6.4	85	4	EPA	Include a discussion of how the concentrations have or haven't changed over the sampling events.	
161	4.6.5	85	4	EPA	Were these detected in filtered or unfiltered samples?	
162	4.6.6	85	4	EPA	This suggests that the contamination isn't a significant concern. However, if the extent hasn't been defined, it is not known if the MW has characterized the worst of any contamination that may be present. Revise to read, "The extent of benzene has not been defined; the benzene result only marginally exceeds the applicable standard.	
163	4.6.3	85	4	CDM Smith	Benzene exceedance at MW-10 is not discussed. PCB exceedance at TWP-4 not discussed. SVOC and pesticide exceedances not discussed. Please revise to include all exceedences.	A
164	4.6.3	85	4	R. Griffiths	Bullet 1: Please remove assumption that natural attenuation processes may be degrading benzene at MW-3. This discussion belongs later in the report, not in the presentation of results. Bullet 2: Please mention the recent porewater delineation activities for CFCs near MW-10/18. Bullet 3: The second sentence of this bullet is misleading. The nearby (offsite) downgradient wells from MW-7 (in the middle of the landfill) are nearly 1,000 feet away. Suggest rephrasing to maintain that PCBs aren't present in the downgradient offsite wells, but remove that they are nearby. Bullet 4: Please mention the recent porewater delineation activities for benzene near MW-19.	
165	4.6.3	85	4	R. Griffiths	typo	
166	4.6.3	85	4	R. Griffiths	remove "nearby and", add "off site"	

167	4.6.3	86	1	CDM Smith	As noted above, dismissal of metals in groundwater as being due to ambient conditions and/or colloids is not well supported and should be reviewed and revised.	A
168	4.6.3	86	2	R. Griffiths	third bullet: Please amend to include MW-10 in the porewater delineation areas.	
169	4.8	87	2	CDM Smith	Figure 4-3 shows exceedances of NJDEP criteria but not of USEPA criteria. Consider adding a second figure as showing both criterias' exceedances is too much for one figure.	P
170	4.8	87	2	R. Griffiths	Here, the Federal ARARs of EPA National Ambient Water Quality Criteria (NAWQC) are referenced, but NRWQC (National Recommended Water Quality Criteria) are used on the Table B-6's. Please reconcile this discrepancy.	
171	4.8	87	3	CDM Smith	There are a number of instances where the semi-quantitative analysis indicated that specific contaminants were elevated compared to background, but the results were not discussed in the text. The text should be revised to explain why these results were not included, for instance, is it because the concentrations of these contaminants were below ARAR's?	A
172	4.8.1.1.1	88	3	R. Griffiths	Indeno(1,2,3-cd)pyrene exceedance of ARARs is noted in this section and on Table B-6A (SW-7, 2/25/08), but not included on Figure 4-3.	
173	4.8.1.1.2	89	2	CDM Smith	Identify which 5 samples are the downstream Loantake Brooke samples. It's difficult to follow the figure/text without that.	A
174	4.8.1.2.2	90	6	CDM Smith	Identify the 10 downstream samples for Black Brook.	A
175	4.8.1.2	92	1	CDM Smith	Based on upstream data, the concentrations of barium, cadmium, copper nickel and zinc found downstream in Black Brook may indicate landfill impact; however, report suggests otherwise for these contaminants based on their statistical analysis (see review statistical analysis).	A
176	4.8.1.3	92	1	R. Griffiths	Since the brooks don't feed into the ponds (as per Section 3.5.1.1), comparisons of constituents in the ponds to the brooks should be omitted.	
177	4.8.1.3	92	2	CDM Smith	This states that benzene, TCE and VC were found in ponds at similar concentrations collected in the brooks upstream of the site; the Figure 4-3 shows no exceedances of these compounds upstream of the site. These VOCs are not listed in the upstream summary for the brooks in Attachment I. Seems contradictory; see review of statistical analysis.	A
178	4.8.1.3	92	3	USFWS	Statements comparing upstream concentrations in brooks to onsite ponds are misleading and should be deleted from the report. There might be some validity when comparing inorganics due to regional geology, but when discussing chemicals such as VOCs and SVOCs it is without merit. Besides being two completely different systems, upstream brook locations would be subjected to many different potential sources of contamination than onsite ponds. Nor is there any hydrological connection between the ponds and brooks.	
179	4.8.1.3	92	3	CDM Smith	This states bis(2-ethylhexyl)phthalate concentration in ponds is similar to upstream of landfill, but there are exceedances in pond, none shown upstream on Figure 4-3. This compound is not listed in the upstream summary for the brooks in Attachment 1. See review of statistical analysis.	A
180	4.8.1.3	92	5	CDM Smith	This states that dissolved Mn appears elevated relative to upstream conditions. Based on Appendix I, total and dissolved Mn appear similar to each other, and to upstream conditions.	A
181	4.8.3	93	4	R. Griffiths	In describing the ARAR exceedances in the large ponds, VOC exceedances from the first phase of investigation were omitted (benzene, TCE, vinyl chloride at SW-3). Please update.	
182	4.8.2	94	1	CDM Smith	SW-SW-44 (not SW-44) is located near the northwestern edge of the landfill (not the northeastern, as stated).	A
183	4.8.3	94	5	CDM Smith	This paragraph omits VOC exceedances in ponds. Please revise.	A
184	4.8.3	95	1	CDM Smith	As stated above in comment 82, manganese concentrations in ponds may not suggest landfill impact based on Appendix I.	A
185	4.9	95	3	USFWS	No ARARs were identified for sediment?	
186	4.9	95	3	R. Griffiths	It would be helpful to note somewhere which sediment samples are considered to be upstream of the landfill considering the radial nature of groundwater and (presumably) wetland flow as indicated on Figure 3-5 through 3-7 (especially in the northwest corner of the site).	
187	4.9	95	5	CDM Smith	the reference for BTVs should be Table B-7D, not B-7C.	A
188	4.9	95	5	J. Cantilli	If the three ponds are hydrologically isolated from Loantaka and Black Brooks, then they may be covered by Executive Order 11990 rather than the CWA Section 404 ARAR.	
189	4.9.1.2.1	99	3	USFWS	It is premature to assume that Aroclor 1254 may occur in upstream samples at concentrations greater than those observed downstream of the landfill. PCBs are a potential concern at the landfill, and to insert text that suggests higher concentrations of PCBs are present upstream of the landfill, without confirming is misleading. The text should be deleted unless it can be further substantiated.	
190	4.9.1.2.2	99	3	R. Griffiths	The presumption that "Aroclor-1254 may occur in upstream sediment at concentrations greater than those observed downstream" because of reporting limits above screening standards should be removed. There are various locations and media that have reporting limits greater than screening limits/promulgated standards, and these conjectures aren't made elsewhere.	
191	4.9.1.2.2	99	4	CDM Smith	States that PCB detection limit in upstream Black Brook samples was higher than PCB detections in downstream Black Brook samples. Therefore concentrations in upstream Black Brook may be higher than the down stream J values. To properly address this hypothesis, the report should present the upstream MDLs.	A
192	4.9.1.3	100	4	R. Griffiths	Since the brooks don't feed into the ponds (as per Section 3.5.1.1), comparisons of constituents in the ponds to the brooks should be omitted.	
193	4.9.1.3	100	5	USFWS	The statement is made attributing PAH contamination in the West pond to clay pigeons from the shooting range further to the west. Has the presence of clay pigeons ever been confirmed in the pond or along its western banks to justify this? Is it even possible intact pigeons can travel that far, let alone fragments of ones that were shot? Please provide evidence to support such statements, and if not, delete from the text here and elsewhere throughout the document.	
194	4.9.1.3	101	1	R. Griffiths	The comparison of Aroclor-1254 concentrations in the large pond (SD-2) to "upstream Loantaka Brook" is not a valid comparison. The brook doesn't feed into the pond. Additionally, the flow contour maps (and the wetland nature of the area north of the large pond), the "upstream Loantaka Brook" locations (SD-65 and SD-69?) with Aroclor-1254 is not upstream, and is hydrologically downgradient of the landfill. No PCBs were detected in the true "upstream" locations. As requested in the surface water section, please include a list of the "upstream" versus "downstream" sediment sampling locations.	
195	4.9.1.3	101	2	USFWS	Statements comparing upstream concentrations in brooks to onsite ponds are misleading and should be deleted from the report. There might be some validity when comparing inorganics due to regional geology, but when discussing chemicals such as PCBs it is without merit. Besides being two completely different systems, upstream brook locations would be subjected to many more potential sources of contamination than onsite ponds. Nor is there any hydrological connection between the ponds and brooks. Perhaps the levels of PCBs detected in the pond are attributed to the landfill since the sample SD-2 was collected near an outfall ditch coming from the landfill.	
196	4.9.1.3	101	6	CDM Smith	What is the evidence/documentation of skeet shooting over the ponds as opposed to the shooting range?	A
197	4.9.2	102	3	USFWS	The text states that PCB congeners were detected in only five locations. Use of the word "only" seems suggestive, as if they were analyzed in all samples, with detections only limited to just five. However, since Aroclors were detected in many more locations, PCBs congeners to no surprise would be expected to occur, at a minimum, in as many. Additional text should be included to state they were analyzed in only a fraction of samples submitted for PCB Aroclors.	

198	4.9.2	102	4	USFWS	The entire section on sediment compares values detected to ecological-based screening benchmarks except here where it is compared to RSLs. For consistency, the discussion on dioxin should focus on comparison to ecological criteria as what was done elsewhere	
199	4.9.2	103	1	USFWS	Please elaborate as to why location POI-14 is a source of lead. After doing a global search of the report, the reviewer could not find text to support this.	
200	4.9.2	103	1	CDM Smith	This states that POI-14 was car battery casings. The fact that lead at SS-169 and SS-170 was at lower concentration than at SS-144 does not preclude that this area was impacted by the landfill. More data would be necessary to rule out the landfill as a source of lead at SS-169, SS-170, SS-171, and/or confirm off-site shooting range as source.	A
201	4.9.3	103	2	R. Griffiths	PCBs were omitted from the list of constituents exceeding EBSLs in the Loantaka Brook downstream of the landfill.	
202	4.9.3	103	3	R. Griffiths	This paragraph inaccurately states that PCBs were not found in Black Brook samples downstream of the landfill (see SD-37,SD-59, SD-173, SD-56 among many others). Please remove the statement about uncertainty regarding upstream concentrations because of detection limits, or add those uncertainties to other evaluations throughout the report.	
203	4.9.3	103	4	USFWS	It is premature to assume that Aroclor 1254 may occur in upstream samples at concentrations greater than those observed downstream of the landfill. PCBs are a potential concern at the landfill, and to insert text that suggests higher concentrations of PCBs are present upstream of the landfill, without confirming is misleading. The text should be deleted unless it can be further substantiated.	
204	4.9.3	104	1	USFWS	Please explain how concentrations of VOCs, SVOCs, and pesticides found in upstream locations in Loantaka and Black Brooks can be used to put into context regional sediment quality, for a comparison to on site ponds. Besides being two completely different systems, upstream brook locations would be subjected to different potential sources of contamination than onsite ponds. Please delete this statement and similar ones like this throughout the document.	
205	4.9.3	104	1	USFWS	The statement is made that skeet shooting over the ponds is a potential source of PAHs and lead. Has shooting ever been observed, or have pigeon fragments or lead shot been found in samples, or around the ponds?	
206	4.9.3	104	1	R. Griffiths	Please remove comparison of pond sediments to upstream brook sediments, as they have different sources and aren't comparable.	
207	5.2.2	107	2	M. Clementson	It is noted that risks are unlikely since tadpoles were abundant at many of the sampling locations. This statement should be clarified as the presence of an organism does not necessarily provide any conclusive information regarding potential risk. This does not account for potential risks to species which may be more sensitive than tadpoles. This issue was raised in the review of the BERA. In the discussion of piscivorous birds and mammals it is stated that there is no risk to piscivorous birds. This statement should be reworded to indicate that there are "no unacceptable risks" as was stated in the BERA. Additionally, this discussion should include what may be causing the potential risk to the piscivorous mammals. The conclusions of no potential risk to, herbivorous, insectivorous, and carnivorous birds and mammals should be changed to "no unacceptable risks".	
208	5.1.5	111	1	EPA	Revise to include, "...or equal to..."	
209	5.1.6	111	1	EPA	Revise to read, "...but rather indicates that there is a potential for non-cancer health effects to occur, and the potential increases as the HI exceeds one."	
210	5.1.6	115	Table	EPA	Revise the table to include the lead concentrations used as an input to the model.	
211	5.1.7	116	3	USFWS	The last sentence is confusing. Is confidence in the HHRA high because conservative values were used, or is additional text needed to clarify? Suggest revising the text to mention there is high confidence that the HHRA is protective of receptors evaluated or something similar.	
212	5.1.6	117	1	USFWS	Please note the typographical error	
213	5.2.1	117	3	M. Clementson	The summary of the assessment endpoints only includes a list of receptors. It may be useful to include the full description of the assessment endpoints as presented in the BERA.	
214	5.2.1	117	4	USFWS	Please "spell out" the full assessment endpoints as they appear in the BERA.	
215	5.2.1	117	4	USFWS	It is true that literature-based uptake factors may be conservative, and in turn overestimate exposure; however, they may also underestimate exposure. It is recommended that the text be revised to read that there are many uncertainties when using literature-based values which may either lead to over-or underestimating exposure and risk.	
216	5.2.3	118	2	M. Clementson	It is stated that the results of the BERA indicate that exposures to COPECs in the environmental media at the Site do not pose an ecological concern for most of the evaluated receptors and that there is a low potential risk for short-tailed shrews and American robin. However, this statement may not be accurate. For example, in Section 5.2.2 BERA Results it is noted that there were potential risks to benthic invertebrates found. Therefore, it may be more appropriate to indicate that for most of the ecological receptors there were no unacceptable risks found.	
217	5.2.2	119	2	USFWS	The text says risks to amphibians and reptiles are unlikely because tadpoles were abundant at sample locations. The presence of tadpoles doesn't necessarily mean risks are unlikely. The text should be revised similar to the discussion in the final BERA.	
218	5.2.2	119	5	USFWS	The text indicates that there was potential for risk to piscivorous mammals, but does not say from what. Please revise the text to be consistent with other paragraphs summarizing model receptor results and note the risk driver(s).	
219	5.2.3	121	2	USFWS	Suggest revising the text to read "there is potential risk to vermivorous mammals and birds, based on the short-tailed shrew and American robin models."	
220	6.1	122	1	CDM Smith	This section should specifically discuss the discharge point for the shallow water-bearing unit. It is only discussed in general terms in the third paragraph. The section also devotes a full paragraph to discussing the underlying clay aquitard but relatively little discussion of the shallow water bearing unit is provided. The conceptual model should expand the discussion of this unit because it is the primary pathway for contaminant migration in groundwater. The wide range of hydraulic conductivity estimates should be discussed in terms of formation material and continuity of more conductive sand beds. The discussion of saturated waste material should also indicate if the difference in depth to groundwater is a function of ground surface elevation or other waste characteristics and whether mounding of groundwater, typical of landfill, has resulted in a radial groundwater flow pattern. This is a key factor when evaluating the impact of "upgradient" contamination on the Site, as discussed in section 6.2.2.2.	A
221	6	122	1	R. Griffiths	general: There needs to be a discussion of groundwater/surface water interactions with regard to contaminant fate and transport. The only occurrences of discharge/recharge is the last paragraph of Section 6.2.2.2 and some discussion was presented in Section 3.4.2.2, but this needs to be applied to possible contaminant migration pathways.	

222	6.1	122	2	R. Griffiths	The last sentence “In areas where the waste material was observed to be saturated at the surface, saturation was likely from precipitation and/or overland flow.” Is this meant to be true for the wetland areas with waste at the surface too? Because that is a groundwater/surface water interaction, only indirectly driven by precipitation.	
223	6.2	122	5	USFWS	There is no discussion at all regarding the nature and extent of contamination in surface water or sediment, and little on soil. In general, the majority of this section focuses primarily on groundwater and groundwater transport and little on the nature and extent of chemicals detected other than VOCs, CFCs, arsenic and lead in that media. There were some fairly high concentrations of lead and PCBs detected in soil and sediment. At a minimum there should be a discussion to put into context the concentrations detected, similar to what was done for VOCs and CFCs in groundwater.	
224	6.2.1	123	1	CDM Smith	This section indicates that there are limited point sources in the landfill but that they are a minor component of the total waste volume. The section should also discuss if these points sources, although small in volume, may be a major source of environmental contamination, particularly to groundwater, compared the larger volumes of standard municipal waste.	A
225	6.2.2.1	123	2	EPA	This section, and section 4, require revision to include analysis of the potential for constituents in soil to migrate to groundwater, not just comparisons to direct contact soil remediation standards.	
226	6.2.2.2	124	3	CDM Smith	The “potential sources upgradient” should be specifically discussed.	A
227	6.2.2.2	124	3	R. Griffiths	In general, discussion of groundwater data from TWP’s is omitted. This data is valuable and should be included in the summaries. For example, pg 125 paragraph 3 implies that benzene impacts at MW-3 are localized because benzene was non-detect at downgradient MW-15. However, benzene was detected at downgradient GW-TWP-8 at similar levels to MW-3, and upgradient GW-TWP-5 and 7at lower levels. The data from these wells needs to be included.	
228	6.2.2.2	125	4	R. Griffiths	add "include"	
229	6.2.2.2	126	1	R. Griffiths	Because of the location of MW-7 and proximity of nearest wells (~1,000 feet), it is difficult to state that indeno(1,2,3-cd)pyrene is localized. Suggest rephrasing to say that impacts do not extend offsite in this area.	
230	6.2.2.3	127	5	R. Griffiths	add "whereas", remove "and" after gravels	
231	6.2.2.3	128	1	CDM Smith	The text indicates that geochemical conditions can be either aerobic or anaerobic and what the fate of constituents like benzene could be. At this point the conceptual model should indicate what the conclusions are from the data collected to date. DO and ORP measurements from groundwater samples should give an idea of these conditions and a more definite statement should be made concerning the benzene concentrations at MW-3. This should also be the case in the last paragraph on page 129 where redox controlled metals area discussed.	A
232	6.2.2.3.2	129	2	R. Griffiths	remove "the" from during the all sampling events	
233	6.3	131	1	CDM Smith	As discussed above, although industrial waste volumes may be small compared to the overall municipal waste volume, the conceptual model should indicate if they are the major source of environmental contamination, particularly to groundwater.	A
234	6.3	131	2	USFWS	The text suggests that concentrations of lead and other metals detected in soil samples may be naturally occurring. Although such a statement may have some merit, it is unlikely that the concentrations of lead and others are naturally occurring especially given that surficial soil is intermixed with refuse and debris which most likely is the source of metals detected.	
235	6.3	131	3	R. Griffiths	This paragraph states that the overburden aquifer is in a thin, sandy and silty material that extends to 20 to 25 feet bgs. Most of the boring logs, however, indicate a shallower depth (~15 feet) for this interval.	
236	6.3	131	4	R. Griffiths	Please see comment on Section 4.6.3 about increasing the number of impacted groundwater areas.	
237	6.4	133	1	CDM Smith	Additional justification should be provided for the offsite shooting range as a potential source of lead when the shooting range to the north of the landfill does not appear to be.	A
238	7	134	1	M. Clementson	It is concluded that contaminants in the onsite ponds are similar to upgradient concentrations in Loantaka Brook and Black Brook. However, according to page 14 in Attachment J, several contaminants (barium, cadmium, calcium, chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, potassium, selenium, silver, sodium, vanadium, zinc, naphthalene and acetone) in the onsite ponds are not consistent with background concentrations. Therefore, this conclusion should be clarified.	
239	7	134	2	CDM Smith	Fifth bullet - More detail should be provided with regard to the Site impact on the “soil beneath” the landfill. It is not clear what type of soil this refers to. Where there is groundwater contamination, the fate and transport section indicates that contaminants should be adsorbing to soil.	A
240	Figures	N/A	N/A	CDM Smith	General Comments on Figures – Please review each figure for the clarity of presentation. Some examples of issues with figures are: a. Ball field and shooting range should be labeled on figures, especially data figures. b. Figure 2-4 – there appears to be an unlabeled soil sample at MW-18. c. On Figure 3-3 it appears that basal colluvium and stream terrace deposits are given the same color. d. Attachment A Aerial photos – inset figures are missing (6, 8, 10, 12, 14). Figures 1 and 2 also missing. e. Label landscape areas on figures, outline which samples are referenced for each area. f. Typically contaminant data are provided in cross section, for vertical delineation. This could be provided for specific areas were deeper soil samples were collected.	A
241	Attachment 1	N/A	N/A	CDM Smith	Exhibit C and B-3A use for cis and trans chlordane; summary table in Attachment I uses alpha and gamma chlordane; please use terminology consistent with report and tables.	A
242	Appendix B	N/A	N/A	CDM Smith	a. On Appendix B-4C change 1,4-dioxane interim groundwater criterion to 0.4 ppb. b. 1,1,2-Trichloro-1,2,2-trifluoroethane interim specific groundwater criterion is 20,000 ppb. c. No VI screening levels included or tap water RSLs are provided, though headings are included on the table. d. Appendix B-6E has no standards or criteria whatsoever, only background threshold values.	A